UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,657	12/31/2003	Kyoung-jae Lee	1293.1924	2805

21171   7590   03/20/2009
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ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
03/20/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/29/2008*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12/31/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some *   c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Detailed Action

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Amendments and Remarks filed December 29, 2008 have been entered and

considered, but are not fully persuasive. Independent claims 1, 8 and 9 have been amended, and

claim 14 has been added. No new matter has been introduced by way of the present

amendments. Claims 1-14 remain.

Response to Arguments

2.   *Summary of Applicants' Remarks*

Applicant's amendments have overcome the following rejections:

- Claims 1-13, previously rejected under 35 USC § 103(a) as anticipated by Lee at al.

  (USPN 6,151,426) in view of Simske (USPN 6,674,901).

Response to Applicants' Remarks:

        Regarding amended independent claims 1, 8 and 9, Applicant's amendments have

necessitated the new grounds for rejection set forth hereinbelow. Specifically, Sheng (USPN

6,753,982) is relied upon to teach the newly added limitations to the independent claims.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-8, 13 and 14 are rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. § 101 must:

(1) be tied-to a particular machine or structure , or

(2) transform underlying subject matter (such as a particular article or material) to a

different state or thing,

known as the "machine-or-transformation" test. See *In re Bilski*, 545 F.3d 943 USPQ2d 1385 (Fed. Cir. 2008) (*en banc*). See also the January 7, 2009 memorandum issued by former Deputy Commissioner for Patent Examining Policy, John J. Love, titled Guidance for Examining Process Claims in view of *In re Bilski* (signed January 7, 2009) [1] under 35 U.S.C. § 101. The instant claims neither transform underlying subject matter (i.e. a particular article) nor positively tie to particular machine or structure that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

In order to be "tied-to" particular machine or structure, structure which performs or executes critical steps of the claimed method must be positively recited in a step or steps significant to the basic inventive concept. Structure in statements of intended use or purpose, whether in the claim or preamble, will not be sufficient.

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[1] Link to the memo:
http://www.uspto.gov/web/offices/pac/dapp/opla/documents/bilski_guidance_memo.pdf
or, from uspto.gov: Policy and Law→Patents→Memorandum to the Examining Corps→
Guidance for Examining Process Claims in view of *In re Bilski* (signed January 7, 2009).

"[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity." Id. at 24, (i.e. the structure must be significant to the basic inventive concept). Furthermore, the machine or structure must be _positively_ recited in the claim, not implied by the claim. Structure will not be read from the specification into the claim.

Instant independent claims 1 and 8 both recite a process that fails to specify structure that is significant to the basic inventive concept. That is, the "particular machine" tasked with performing the "pre-scanning" and "main scanning" steps is not recited. Hence, claims 1-8, 13 and 14 are not tied-to a particular machine. Furthermore, the steps recited in the body of independent claims 1 and 8 do not necessarily require the use of a particular machine (i.e. nothing in the body of the independent claims requires an actual scanner or equivalent machine to perform the steps of the method). Therefore, claims 1-8, 13 and 14 fail the "machine" prong of the "machine-or-transformation" test.

Furthermore, "an article" is not transformed into a different state or thing by any of the steps of claims 1-8, 13 and 14. The transformation prong of the Bilski test for patent eligible subject matter stems from In re Abele, 684 F.2d 902 (CCPA 1982), particularly, the discussion surrounding Abele's claims 5 and 6. The _combination_ of Abele's claims 5 and 6, is presently considered an example of a valid transformation, because:

1) data being transformed (i.e. the "particular article") represents "real world data" (e.g. Abele uses X-ray attenuation data);

2) the "particular article" is transformed into a different state or thing by a non-trivial step of the method (e.g. the steps recited in claim 5 of Abele); and

3) the transformed data is depicted as an external representation of a physical object

(e.g. the transformed data is displayed).

Instant independent claims 1 and 8 fail to recite data equivalent to a particular article, fail to

transform the data into a different state or thing, and fail to depict the transformed data as an

external representation of a physical object. Hence, claims 1-8, 13 and 14 also fail the

"transformation" prong of the "machine-or-transformation" test.

For a more detailed explanation of this or other Office policy, Applicants may refer to the

Office of Patent Legal Administration (OPLA):

- (571) 272-7701 – General patent examination legal and policy guidance

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

> 1.   Determining the scope and contents of the prior art.
> 2.   Ascertaining the differences between the prior art and the claims at issue.
> 3.   Resolving the level of ordinary skill in the pertinent art.
> 4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

5.   Claims 1-3, 5, 8-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lee et al. U.S. Patent No. 6,151,426.in view of Sheng et al. U.S. Patent No. 6,753,982.

Regarding claim 1, Lee discloses a method of scanning a document to generate image data of the document *(Abstract, figs. 3A-3B)*, the method comprising:

    i.   performing a pre-scanning operation at a first predetermined resolution and speed according to a scan command until a current scanning area is located in a main-scan area *(col. 3, lines. 24-40 "windows having tools for adjusting various aspects of the selected area," also, col. 4, lines. 38-60, where Lee's pre-scan is a "low quality scan" relative to the main scan. A "low-quality" scan as disclosed by Lee, necessitates a first predetermined speed and resolution relative to Lee's disclosed main scan)*; and

    ii.   performing a main-scanning operation at a second predetermined resolution and speed, until the current scanning area is beyond the main-scan area, after the current scanning area has been located in the main-scan area *(see discussion in claim 1 i. above)*.

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is <u>in response to the stopping the pre-scanning operation</u>. However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation (via edge detection) to determine the size of the document to be scanned in a main-scanning operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of the document is automatically triggered, without user intervention. Insofar as Sheng's edge detection pre-scan scan stops when the size of the document to be scanned is determined, the edge detection pre-scan can be said to stop when the current scanning are is located in the main-scan area, as required by the instant independent claims.

Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is <u>in response to the stopping the pre-scanning operation</u> *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan determines the size of the document being scanned and triggers the main-scan operation).*

Thus Lee has set forth the base image scanning device and Sheng has disclosed an improvement in the field of the base device suitable for use thereon. The benefits of stopping the pre-scanning operation to trigger a main-scan function as taught by Sheng would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teaching of Lee and Sheng to produce a document scanning method further comprising stopping the pre-scanning operation when the current scanning area is located in the main-scan to achieve the benefits of avoiding unnecessary scanning operations.

Regarding claim 2, Lee discloses a method wherein said performing a pre-scanning operation comprises sensing a position of a starting portion of the main-scan area in which a document is positioned *(col. 2, lines 38-42 where Lee's "initial region of interest" is the starting portion of the main-scan area).*

Regarding claim 3, Lee discloses a method wherein said performing a main-scanning operation comprises scanning a document sensed during the pre-scanning operation to generate image data of the document *(col. 4, lines 38-65, where the actual sensed document is scanned, thereby generating image data of the document).*

Regarding claim 5, Lee discloses a method further comprising, if the number of documents input is one, ending scanning of the document after said performing a main-scanning operation ends *(col. 3, lines. 24-40, where Lee ends the scanning operation after end of the first document is reached).*

Regarding claim 8, Lee discloses a method of scanning documents, comprising:

i.   placing one or more documents to be scanned within a physical scan ar*ea (fig. 1, item 114, col. 3, lines 24-40 as well as Fig. 2 items 202, 210, 212, 214 etc. which collectively show a pre-scan of one or more documents having been placed on a physical scan area);*

ii.   performing a pre-scanning operation until a beginning of one of the documents is sensed *(col. 2, lines 38-42where Lee's "initial region of interest" is the beginning of one of the first sensed document);*

iii.   performing a main-scanning operation until an end of the one of the documents is sensed *(Lee col. 3, ln. 24-40, where the main scan operation is disclosed);* and

iv.   repeating said performing a pre-scanning operation and said performing a main-scanning operation until a bottom of the physical scan area is reached, thereby scanning the physical scan area once *(Lee col. 3, ln. 24-40, and col. 4, ln. 38-65 where the main-scan is performed and the end of the document is captured by reaching the end of the physical scan area).*

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is <u>in response to the stopping the pre-scanning operation</u> .

However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation

(via edge detection) to determine the size of the document to be scanned in a main-scanning operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of the document is automatically triggered, without user intervention. Insofar as Sheng's edge detection pre-scan scan stops when the size of the document to be scanned is determined, the edge detection pre-scan can be said to stop when the current scanning are is located in the main-scan area, as required by the instant independent claims.

Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning operation when the current scanning area is located in the main-scan area and that the performing the main-scanning operation is in response to the stopping the pre-scanning operation *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge detection pre-scan determined the size of the document being scanned and triggers the main-scan operation).*

Thus Lee has set forth the base image scanning device and Sheng has disclosed an improvement in the field of the base device suitable for use thereon. The benefits of stopping the pre-scanning operation to trigger a main-scan function as taught by Sheng would have been readily apparent to the skilled artisan. It would have been obvious to the person having ordinary skill and creativity in the image processing arts at the time of the instant application to combine the teaching of Lee and Sheng to produce a document scanning method further comprising stopping the pre-scanning operation when the current scanning area is located in the main-scan to achieve the benefits of avoiding unnecessary scanning operations.

Regarding claim 9, Lee discloses a scanner, comprising:

    i.   a pre-scanning unit performing a pre-scanning operation at a first predetermined

        resolution and speed until a current scanning area is located in a main-scan area *(fig 1,*

        item 114, also, col. 3, ln. 24-40, and col. 4, ln. 38-65); and

    ii.   a main-scanning unit performing a main-scanning operation at a second predetermined

        resolution and speed, until the current scanning area is beyond the main-scan area, after

        the current scanning area has been located in the main-scan area *(fig 1, item 114, also,*

        col. 3, ln. 24-40).

Lee is presently interpreted as being silent on the limitations of stopping the pre-scanning

operation when the current scanning area is located in the main-scan area and that the performing

the main-scanning operation is <u>in response to the stopping the pre-scanning operation</u> .

However, Sheng teaches a similar image scanning system that utilizes a "pre-scan" operation

(via edge detection) to determine the size of the document to be scanned in a main-scanning

operation. When Sheng's edge detection pre-scanning operation is complete, the main-scan of

the document is automatically triggered, without user intervention. Insofar as Sheng's edge

detection pre-scan scan stops when the size of the document to be scanned is determined, the

edge detection pre-scan can be said to stop when the current scanning are is located in the main-

scan area, as required by the instant independent claims.

      Specifically, Sheng is interpreted to teach the limitations of stopping the pre-scanning

operation when the current scanning area is located in the main-scan area and that the performing

the main-scanning operation is <u>in response to the stopping the pre-scanning operation</u> *(see Sheng*

column 2 line 45 – column 3 line 16, as illustrated in Figs. 1a and 1b where Sheng's edge

detection pre-scan determined the size of the document being scanned and triggers the main-

scan operation).

Thus Lee has set forth the base image scanning device and Sheng has disclosed an

improvement in the field of the base device suitable for use thereon. The benefits of stopping the

pre-scanning operation to trigger a main-scan function as taught by Sheng would have been

readily apparent to the skilled artisan. It would have been obvious to the person having ordinary

skill and creativity in the image processing arts at the time of the instant application to combine

the teaching of Lee and Sheng to produce a document scanning method further comprising

stopping the pre-scanning operation when the current scanning area is located in the main-scan to

achieve the benefits of avoiding unnecessary scanning operations.

Regarding claim 10, Lee discloses a scanner wherein the first predetermined resolution

and speed are set by a user or set depending on characteristics of the scanner *(col. 2, ln. 27-32,*

also, col. 3, ln. 24-40).

Regarding claim 11, Lee discloses a scanner wherein the speed of the pre-scanning

operation is greater than the speed of the main-scanning operation *(col. 4, ln. 38-60, where Lee's*

pre-scan is a "low quality scan" relative to the main scan. A "low-quality" scan as disclosed by

Lee, is necessarily slower than Lee's disclosed main scan).

Regarding claim 12, Lee discloses a scanner wherein a size of a document to be scanned

is variable *(col. 2, ln. 32-37 and Fig. 2 items 212 and 210 which appear to be substantially the*

same size as a business card), and as such the size of the document to be scanned is the same

size as a business card.

Regarding claim 14, Sheng further teaches the method of claim 2 wherein the sensing

comprises automatically sensing *(see Sheng column 2 line 45 – column 3 line 16, as illustrated in*

Figs. 1a and 1b where Sheng's edge detection pre-scan automatically (without user intervention)

determines the size of the document being scanned by sensing the edges (starting positions) of

the document).

6.   Claims 4, 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et

al. U.S. Patent no. 6,151,426 in view of Sheng et al. U.S. Patent No. 6,753,982, further in view

of Kao U.S. Patent No. 6,453,080 B1.

Regarding claim 4, Lee and Sheng are silent on a method further comprising inputting a

number of documents for which image data are to be generated. However, Kao discloses a

document scanning method and apparatus where image data are generated for multiple

documents *(see Kao col. 7, ln. 22-30, "the efficiency of the inventive method will be more*

remarkable especially when the scanner is scanning multiple documents"). Thus Lee and Sheng

have set forth the base image scanning device (as indicated re claim 1 supra) and Kao has

disclosed an improvement in the field of the base device suitable for use thereon. The salient

benefits of processing multiple documents for which data are to be generated would have been

readily apparent to a skilled artisan. Therefore, the combined teaching of Lee, Sheng and Kao

would have rendered obvious utilization of a document scanning method further comprising

inputting a number of documents for which image data are to be generated.

Regarding claim 6, Lee and Sheng are silent on a method further comprising, if the

number of documents input is two or more, sensing a starting portion of a subsequent document

after said performing a main-scanning operation ends by repeating said performing a

pre-scanning operation. Kao discloses a method of sensing a starting *portion (Kao, claim 1 a)*

"A method for real-time auto-cropping a scanned image comprising... sequentially reading each

partial image block from a scanner until a first meaningful image region is found") of a

subsequent document after said performing a main-scanning operation ends by repeating said

performing a pre-scanning operation where multiple documents are to be scanned (*see Kao col.*

7, ln. 22-30, "the efficiency of the inventive method will be more remarkable especially when the

scanner is scanning multiple documents"). Therefore, the combined teaching of Lee, Sheng and

Kao would have rendered obvious utilization sensing a starting portion of a subsequent

document after a main-scanning operation ends by repeating a pre-scanning operation where two

or more documents are to be scanned.

Regarding claim 13, Kao further teaches the method of claim 1 wherein the performing

of the pre-scanning operation comprises performing the pre-scanning operation without

displaying a scanned area to a user *(Kao's scanning system is real-time and automatic (Abstract*

col. 2 line 50 thru col. 3 line 11), thus no user input is required and as such no display of a

scanned area to a user is required).

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. U.S.

6,151,426 in view of Sheng et al. U.S. Patent No. 6,753,982, further in view of Lopez U.S.

5,596,655.

Regarding claim 7, Lee and Sheng are silent on a method further comprising wherein said

performing a pre-scanning operation comprises determining whether white data exist for each

line of a document to be scanned and counting the number of white lines of the white data.

Lopez discloses an image scanning system comprising determining whether white data exist for

each line of a document to be scanned and counting the number of white lines of the white data

(Lopez figs 11 and 12, also, col. 10 lines 48-65). Thus Lee and Sheng have set forth the base

image scanning device and Lopez has disclosed an improvement in the field of the base device

suitable for use thereon. The salient benefits of accounting for excess white space during the

scanning process would have been readily apparent to a skilled artisan. Therefore, the combined

teaching of Lee, Sheng and Lopez would have rendered obvious utilization sensing a starting

portion of a subsequent document after a main-scanning operation ends by repeating a

pre-scanning operation where two or more documents are to be scanned.

Contact

8.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Steve Koziol whose telephone number is (571) 270-1844. The
examiner can normally be reached on Monday - Friday 9:00 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Samir Ahmed can be reached at (571) 272-7413 . Customer Service can be reached
at (571) 272-2600. The fax number for the organization where this application or proceeding is
assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
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/srk/
03/14/2009

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